Title: SYNCHRONIZING CONTINUOUS SIGNALS AND DISCRETE EVENTS FOR AN IMPLANTABLE MEDICAL DEVICE

REMARKS

Page 8 Dkt: 279.662US1

This responds to the Office Action dated July 12, 2005. Claims 1-31 are pending in this application. No claims have been amended, added, or cancelled.

§103 Rejection of the Claims

1. Claims 1-10, 16-23 and 28-31 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Amely-Velez (U.S. Publication No. 2002/0107550) in view of Bocek et al. (U.S. Patent No. 5,578,063, "Bocek"). Applicant respectfully traverses the rejection. To establish *prima facie* obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art. *M.P.E.P. § 2143.03*.

Regarding claims 1-10, 16-17:

Applicant cannot find in the proposed combination of Amely-Velez and Bocek any disclosure of, among other things,

wherein the controller circuit is operable to read a clock circuit value as a timestamp representative of absolute time, the timestamp indicating when the detected event occurred,

as recited or incorporated in these claims.

The present application teaches that absolute time refers to the controller reading and storing a clock circuit value in contrast to a controller calculating a relative time value. In an example embodiment, absolute time is referenced from a system epoch (*see* page 8, lines 1-6). Amely-Velez refers to timing [events] with respect to each other (*see* col. 1 ¶ 0003) and Bocek refer to markers being aligned in time relation to their respective electrograms and hence to each other (see col. 10 lines 35-37).

Regarding claims 18-23, 28-31:

Applicant cannot find in the proposed combination of Amely-Velez and Bocek any disclosure of, among other things,

storing event markers representing the events in a memory, each event marker including a timestamp of when a corresponding event occurred, the timestamp representative of an absolute time,

as recited or incorporated in the claims.

Rather than absolute time, Amely-Velez refers to timing [events] with respect to each other (see col. 1 ¶ 0003) and Bocek refer to markers being aligned in time relation to their respective electrograms and hence to each other (see col. 10 lines 35-37).

In sum, Applicant respectfully requests reconsideration and allowance of claims 1-10, 16-23 and 28-31.

2. Claims 11-15 and 24-27 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Amely-Velez (U.S. Publication No. 2002/0107550) in view of Bocek et al. (U.S. Patent No. 5,578,063) as applied to claims 1-10, 16-23 and 28-31 above, and further in view of Owen et al. (U.S. Patent No. 6,427,083, "Owen"). Applicant respectfully traverses the rejection. Claims in dependent form shall be construed to include all the limitations of the claim incorporated by reference into the dependent claim. 37 C.F.R. § 1.75(c).

Claims 11-15 ultimately depend on base claim 1, and claims 24-27 ultimately depend on base claim 18. As discussed previously, Applicant cannot find a teaching or suggestion of all the elements of the base claims in the proposed combination of Amely-Velez and Bocek. The addition of Owen fails to provide the missing element or elements. For example, Applicant cannot find in the proposed combination of Amely-Velez with Bocek and Owen any disclosure of,

wherein the controller circuit is operable to read a clock circuit value as a timestamp representative of absolute time, the timestamp indicating when the detected event occurred,

as recited in claim 1 or,

storing event markers representing the events in a memory, each event marker including a timestamp of when a corresponding event occurred, the timestamp representative of an absolute time,

as recited in claim 18.

Additionally, Applicant is unable to find any teaching or suggestion of amplitude compression as recited in claims 12 and 25, Huffman encoding as recited in claims 14 and 26, or reducing the sampling rate to compress data as recited in claims 13 and 27. Further, Owen refers to compression techniques that result in lossless compression are preferred (*see* col. 22 lines 47 and 48). Thus, Owen apparently teaches away from reducing the sampling rate to compress data.

Filing Date: December 22, 2003 Title: SYNCHRONIZING CONTINUOUS SIGNALS AND DISCRETE EVENTS FOR AN IMPLANTABLE MEDICAL DEVICE

Furthermore, to establish *prima facie* obviousness there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. M.P.E.P. § 2143. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art and not in the Applicant's disclosure. M.P.E.P. § 2142.

The Office Action states that it would have been obvious to one having ordinary skill in the art at the time of the invention to modify the systems of Amelt-Velez and/or Bocek by compressing the data, which increases the efficiency of the system, by reducing the amount of memory space without sacrificing the data stored therein as taught by Owen (see Office Action page 5).

Amely-Velez is apparently silent as to storing data. Bocek refers to where the digital samples or data stored in [memory] portion 88 is only temporarily stored therein before it is transmitted to the external programmer for display (see col. 6, lines 50-52), and where the electrograms and markers are ... temporarily stored in portion 140 of memory 136, for example two seconds, prior to being displayed on the display (see col. 10, lines 2-4). Owen refers to a data logging memory block stores any information provided ... over a predetermined span of time, such as two days (see col. 22, lines 21-23). Because Applicant cannot find any motivation to store large amounts of information in Amely-Velez and Bocek, proper motivation is apparently lacking to combine the data compression of Owen with the devices, systems, and methods of Amely-Velez and Bocek.

The Office Action also states that it would have been obvious to one having ordinary skill in the art at the time of the invention to modify the systems of Amely-Velez and/or Bocek by including a global network connection as taught by Owen since it would increase the communication ability of the systems. Applicant is unable to find in Amely-Velez or Bocek any discussion of a need to increase the communication ability of the systems they describe. Thus, proper motivation is apparently lacking to combine a global network connection of Owen with the devices, systems, and methods of Amely-Velez and Bocek. Thus, the motivation to make the claimed combination apparently comes from the Applicant's disclosure and not from the references Amely-Velez, Bocek, or Owen.

Page 11 Dkt: 279.662US1

Filing Date: December 22, 2003

Title: SYNCHRONIZING CONTINUOUS SIGNALS AND DISCRETE EVENTS FOR AN IMPLANTABLE MEDICAL DEVICE

In sum, Applicant respectfully requests reconsideration and allowance of claims 11-15 and 24-27.

CONCLUSION

Applicant respectfully submits that the claims are in condition for allowance, and notification to that effect is earnestly requested. The Examiner is invited to telephone Applicant's attorney at (612) 373-6951 to facilitate prosecution of this application.

If necessary, please charge any additional fees or credit overpayment to Deposit Account No. 19-0743.

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CERTIFICATE UNDER 37 CFR 1.8: The undersigned hereby certifies that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail, in an envelope addressed to: Mail Stop Amendment, Commissioner of Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on this day of October, 2005.

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Signature

Name